

Attachment 3

FCC Relevant Information Systems Summary

Introduction

The following Relevant Information System Summary is representational of IT systems and applications in the IT Portfolios Contractor will be responsible for supporting for the Period of Performance to support the mission activities of the FCC.

While this list captures basic technologies in use or recently used, it may not be absolutely complete or current. Evolving activities and requirements and recent developments may require the addition, subtraction, or re-prioritization of the below systems and system list.

Licensing Portfolio

- **Broadband Plan and Map**– The Broadband initiative serves to assess the IT focus component of the nation’s ability to provide Broadband services throughout the United States utilizing current infrastructure and assess where improvements/investments are required to realize vision of Broadband availability for all.
- **Auction Systems – ISAS** The scope of the FCC auction program covers the development and maintenance of the FCC’s auction system and associated components, consisting of the external processes (to include, but not limited to bidder application process and bidding via the Administration Manager module and Auction Application Manager/Auction Application module) and internal processes (to include, but not limited to the Application Review module, Auction System Administration module and Report Manager modules). These various modules manage the entire auction process from the initial filing of applications through the completion of the bidding event. The systems were redeveloped over five years ago as part of the FCC’s Integrated Spectrum Auction System (ISAS) and have reached the end of their life cycle. ISAS was deployed in 2005 and has been used to auction nearly 1,500 licenses raising over \$50 billion for the U.S. Treasury. Most recently the FCC has developed a new workflow management system for the review and management of incoming auction applications. The technologies used to build ISAS, the auctions system, are flexible, parameter-driven, internet-based software packages, and include J2EE, Sybase, ColdFusion, Business Objects and Macromedia Flash.

The FCC auctions a wide variety of spectrum licenses, including services from the Wireless Telecommunications Bureau, the Media Bureau, and the International Bureau. Each of the auction modules is flexible and allows the FCC to tailor the specific parameters to meet the need of the spectrum licenses being sold. The auction system accommodates a number of different auction types including simultaneous multiple round auctions with or without package bidding, single round sealed bids and auctions with limited information revealed to bidders. There is sufficient interaction with licensing systems for auction winners which must be supported including pre and post fill of certain data, data entry of

some Bureau's licensing data as required and joint management of some internal processes.

The Administration Manager module serves as the key functional module from which most auction functions are executed. A user may set up basic auction parameters, including filing window dates, auctionable items, bidding and round control settings. The user may also execute processing functions that close auction phases, verify applications and determine qualified bidders. The Report Manager modules provide the user with a central location to perform all reporting functions. From this module the user may run auction reports including Application reports, Bidding reports and Public Notice (PN) attachments. The Application Review module is specifically designed to allow the user to review applications and assign a status to a submitted application. The Auction Application Manager/Auction Application module provides the public user with a web-based interface to apply to participate in an FCC auction. The Auction Application Manager defines the "homepage" of the auction application system and displays general auction application information to the public user. The Bidding module allows for authorized public users to participate in bidding activities for a specific auction. The system provides the user with the ability to create watch lists of auctionable items, place bids on these items, and generate reports. All aspects of the bidding process must be supported including solver logic, research and analysis, mapping as required, auction changes, and performance/scalability improvements. It is anticipated major auction changes will be required.

Incentive Auctions -

The Middle Class Tax Relief and Job Creation Act of 2012, which the President signed into law on February 22, 2012, gives the Commission authority to conduct incentive auctions and requires the Commission, among other things, to conduct a one-time incentive auction of television broadcast spectrum. Incentive auctions are a voluntary, market-based means of repurposing spectrum. The television broadcast incentive auction for which the Act provides would allow television broadcasters to voluntarily relinquish some or all of their spectrum usage rights in exchange for a share of the proceeds from a "forward auction" of initial licenses for flexible use of the newly available spectrum, with the Commission reorganizing the broadcast television bands in order to free up a portion of the ultra-high frequency band for flexible uses. There is an urgent need to move the project rapidly to meet the growing demand for more spectrum for mobile broadband use and this innovative statutory mandate requires considerable policy, engineering, auction design and software development work to implement. Implementation of the Act's requirements is a top Commission priority.

Mobility Auctions –

The Mobility Fund Phase I Auction (FCC Auction 901) will offer up to \$300 million in one-time support to carriers that commit to provide advanced mobile voice and broadband services in areas where such services are currently unavailable. Winning bidders will have to deploy third generation (often called "advanced" or "3G") service

within two years or fourth-generation (“4G”) service within three years of the award of support.

This will be the first auction to offer high-cost universal service support through competitive bidding. Using a reverse auction format, bidders will identify a per-road mile support price at which they are willing to meet our requirements to cover the qualifying road miles in a given area. Support will be awarded based on the lowest bid amounts submitted, to at most one provider in a given area. Thus, bidders will compete not only against other carriers that may be bidding for support in the same areas, but against carriers bidding for support in other areas nationwide. Support will be awarded equal to the per-road mile bid rate multiplied by the number of qualifying road miles that the winning bidder actually covers within the required timeframe.

- **Consolidated Licensing System (CLS)** – CLS is the next generation of license and spectrum management processes, tools and methodologies which address rising maintenance costs and deficiencies in functionality. Currently there are five primary licensing systems performing similar functions which will be consolidated into the CLS. These systems are Universal Licensing System (ULS); the Consolidated Data Base System (CDBS) and all its modules and related systems; the International Bureau Filing System (IBFS); the Cable Operations and Licensing System (COALS); OET’s Experimental Licensing System (ELS), and Antenna Structure Registration (ASR) System. Each of these 5 systems, currently, is a distinct system managed separately by separate Bureaus with decentralized support. All of these systems are in operations and maintenance and have reached the end of their life cycle. The existing systems shall be redesigned into a single online system, CLS, to support performance requirements and traffic loads. The system has a completed but dynamic customer requirements document, and is in the internal testing stage for phase one. Ownership portions are in requirements phase. Completion date for the CLS effort is scheduled for FY2014.

This system will provide numerous benefits, including fast and easy electronic filing, improved data accuracy through automated checking, and enhanced electronic access to the information. The licensing database will receive the combined total of applications for the listed systems and antenna structure registrations.

This system will be developed to provide a “green,” flexible, parameter-driven system powerful enough to adapt to a changing environment. The integrated systems will be redesigned into a single online system to support performance requirements and traffic loads using a J2EE platform using web services, Service Oriented Architecture and tools such as Informatica ETL tool, ILOG’s JRules, a mapping tool, Oracle, Sun’s JavaCaps or other SOA tool and Sybase’s PowerDesigner tool.

The following systems are currently scheduled for integration into the Consolidated Licensing System (CLS):

- **Universal Licensing System (ULS)** – ULS is an interactive licensing database used to process applications and to grant licenses in wireless services. The ULS is a browser-based tool that enables electronic filing for customers with a Funding Request Number (FRN). IT requires an FCC registration number and password. ULS enables participants to research applications, licenses and antenna structures. It provides weekly public notices, FCC rulemakings and a geographic information system (GIS). Within ULS, there are several systems that provide complementary functionality. These systems include Universal Licensing System (ULS) - Section 106 Construction of Communications Facilities, the Commission's E-106 System, the Hearing Aid Compatibility system, and Universal Licensing System (ULS) - Tower Construction Notification System. ULS was built using a server-based platform rooted in Sybase and Oracle with the additional coding tools of HTML, Java, PowerBuilder, ColdFusion MX and XML to meet evolving requirements.
- **Consolidated Database System (CDBS)** – The Consolidated Database System (CDBS) is the Media Bureau's internet-based system which provides the public with the ability to electronically file approximately 50 forms with the FCC using a web browser. These include broadcast radio and television application forms, Equal Employment Opportunity (EEO) forms and Ownership forms. Informal forms (such as Change of Address, Consummation, and Special Temporary Authority (STAs)) are also available for electronic filing. Public internet access to these electronic filings and to station, application, authorization and EEO information is available through the CDBS Public Access web pages. A tool provides the public with the ability to manage authorized FRNs for their stations. An internal PowerBuilder application provides FCC staff with a workflow process for analyzing and approving/dismissing filed forms and for generating Public Notices and official Authorizations. The application includes additional sub-systems including the Call Sign Reservation System, Kidvid, and numerous forms and notifications. The Call Sign Reservation and Authorization System (CSRS) enables broadcast radio and television licensees and permittees to ascertain whether a Call Sign is available, to request an initial Call Sign, and to change or exchange Call Signs electronically over the internet. CDBS was developed using Sybase 12.5, PowerBuilder 10, HTML, JavaScript, Web.SQL, Perl/Syberperl, SQL, Sybase stored procedures, Java/JDBS/Jconnect, J2EE/JSP/servlets/Java Beans, BEA WebLogic, ColdFusion, Adobe Acrobat Professional, C/C++, CTlib/Open Client 11.1.1, GSView, SQSH, and Promula.
- **International Bureau Filing System (IBFS)** – The International Bureau Filing System (IBFS) is a consolidated licensing system that supports the FCC's authorization and licensing activities of international telecommunications and satellite services and facilities. The system consists of an internal and an external component. This internet-based system allows for electronic filing of various applications and provides users with a variety of query and reporting options. The external component allows users to file applications via the internet and view real-time online application data and reports. IBFS includes a sub-system application called International Bureau Filing System - Schedule S, the satellite

(or Space Station) technical schedule; used to collect frequency, antenna and power information, as well as orbital patterns for the space station. The internal component, developed using PowerBuilder and Sybase with C programs, consolidates 13 major processes. MyIBFS exists on a new platform. Both IBFS and MyIBFS exist separately on different platforms. The legacy external component was developed using WebSQL and Perl, with Actuate license generation. The second generation is being developed using BEA WebLogic Java/J2EE. Additional technological characteristics include an internet-based system that operates on SUN servers, Sun Solaris, Netscape iPlanet, Java, JConnect, PERL, WebSQL (CGI-version), Sybase Adaptive Server Enterprise, PowerBuilder and CAST Workbench.

- **Cable Operations and Licensing System (COALS)** – The COALS system provides cable operators and other multi-channel video programming distributors (MVPDs) an electronic filing capability for cable system registrations, frequency usage notifications, signal leakage reports and other cable system information. In addition to being an electronic means for license applicants to provide CATV service to specified areas/CUIDS, it maintains station license information, technical data and prints station authorizations and public notices of license grants, etc., for Cable Television Antenna Relay stations. Technology characteristics of the COALS includes an Internal PowerBuilder application component, web-based external module, Sybase Adaptive Server Enterprise 11.5.1.2, Sybase Open Client 11.1.1, CAST Workbench 4.2, Adobe Acrobat Reader (current Version), PowerBuilder 9.
- **Experimental Licensing System (ELS)** – The Experimental Licensing System (ELS) allows electronic submission and processing of applications and documents for experimental licenses that authorize experimentation with new techniques or new services that use the RF spectrum. FCC rules provide for limited market studies to assist the licensee in evaluating market potential for new equipment or services, for demonstration of equipment before obtaining equipment authorization and for performing communications necessary for a research project where existing communication services are not sufficient. Applications and progress report information provided by the licensee help the FCC identify new services and technologies being developed and aid in better management of the spectrum. The web site allows the public to complete and submit an application for experimental licenses electronically, using FCC Forms 405, 442, 702, 703 or Special Temporary Authorization (STA). On-line search options allow applicants to check the status of an experimental license application, perform experimental licensing data base call sign searches, perform additional data base searches and view experimental licenses and applications. The internal processing application accommodates interfaces for fee payment, FRN validation and submitting/receiving NTIA/FAA frequency coordination requests. The system interfaces with the Commissions OFACS system via web services to coordinate frequencies with the FCC Spectrum Coordination Branch and NTIA. The internal server of the ELS was created using Microsoft file and print services,

PowerBuilder 10.5, Oracle WebLogic 10.3 Java/JEE, JSP/servlets/EJB, Sybase Open Client, Jakarta Struts, C/C++, Java-based Web Services, HTML, JavaScript, CSS, Dreamweaver 8, AJAX, XML/XSLT, Cold Fusion 8 for J2EE, Adobe Professional/API, Microsoft Office, Microsoft Project, Eclipse, PVCS Tracker/Version Manager, and HP Open Test. Servers communicate through a Sybase proxy on the firewall to the database server.

- **Antenna Structure Registration (ASR) System** – ASR is the interactive registration database developed to record owner registrations of antenna structures that require FAA notification with the FCC via the ASR program. The Antenna Structure Registration Program is the process under which each antenna structure that requires FAA notification - including new and existing structures - must be registered with the FCC by its owner. The owner is the single point of contact for resolving antenna-related problems and is responsible for the maintenance of those structures requiring painting and/or lighting. Since the Antenna Structure Registration requirements only apply to those antenna structures that may create a hazard to air navigation (either by their height or proximity to an airport), the registration files do not contain a comprehensive record of all antenna structures. ASR was created utilizing Sybase, PowerJ, Java and EA Server.
- **Universal Licensing System (ULS) - Tower Construction Notification System (TCNS)** – The Tower Construction Notification System is intended to increase communication with Indian Tribes and Native Hawaiian Organizations (NHOs) in the context of the review required by Section 106 of the National Historic Preservation Act (NHPA). It also provides Tribes/NHOs and State Historic Preservation Officers with early notification of proposed towers in order to facilitate compliance with the Commission's rules, and streamline the review process for construction of towers and other Commission undertakings. TCNS was created using Sybase and ColdFusion.
- **Universal Licensing System (ULS) - Section 106 Construction of Communications Facilities** – The Commission's E-106 System may be used in completing the review process for proposed constructions of communications facilities under Section 106 of the National Historic Preservation Act (NHPA). E-106 is a voluntary system designed to save users time and resources by automating and expediting the exchange of information and correspondence in the Section 106 process.
- **Hearing Aid Compatibility (HAC)** – The Hearing Aid Compatibility Act of 1988 (HAC Act) requires that the Federal Communications Commission (FCC) ensure that all telephones manufactured or imported for use in the United States after August 1989, and all essential telephones, are hearing aid-compatible. The HAC report utilizes J2EE, BEA WebLogic and Sybase. Programming tools employed include Java Classes, Java Beans and Sybase stored procedures. ReportMill is used to create the PDF versions of the HAC reports, BizObjects

uses to generate canned reports for posting to the HAC site. ColdFusion is used for the dynamic web pages that display the individual company filing PDFs.

- **FCC General Menu Reports (GenMen)** – The GenMen application is a single front-end query system that allows users to access most of the Commission’s licensing data in many of the FCC databases using the same common interface. Member databases include Universal Licensing System, Experimental Licensing System, Cable Operations (CARS), Mass Media systems and International Bureau systems. Queries include frequency range, state/county, location (latitude/longitude), call sign and licensee name. A complete help facility exists to explain the functionality of the system. Where available, direct links to online license documents are provided. GenMen was created using Sybase Adaptive Server, CAST Workbench, Cold Fusion through BEA/J2EE, Designer Professional, Macromedia Dream-weaver 2004, Text Editor, Web.SQL (legacy version), Perl (legacy version) and various web browsers.
- **Consolidated Database System (CDBS) - Call Sign Reservation and Authorization System** – The CSRS provides a fully automated Call Sign reservation and authorization service that replaced the manual Call Sign Help Desk Service. The system enables broadcast radio and television licensees and permittees to ascertain whether a Call Sign is available, to request an initial Call Sign and to change or exchange Call Signs electronically over the internet. The system supports public access for call sign query, reservation, fee payment, and change request authorization over the internet. Technological characteristics of the CSRS include Sun Solaris Sybase 12.5, HTML, PERL and Web.SQL.
- **Consolidated Database System (CDBS) - Children’s Television Reporting System (KidVid)** – KidVid is used to provide information on the efforts of commercial television broadcast stations to provide children’s educational television programming as required by the Children’s Television Act of 1990. KidVid was created using Sun Solaris, Sybase 12.5, HTML, MapThis, Sun Microsystems’s J2EE (Java 2 Enterprise Edition) and BEA WebLogic.
- **Broadcast Public Inspection File** - The vision of this software is to create an electronic version the PF available through a central repository. This repository would present user-friendly station profiles and public files consisting of information drawn from existing FCC systems and various documents added by individual stations. Ease of use by broadcasters and public are of primary importance.
The primary vision and goal is to aggregate existing information online as is to improve its accessibility. Users should be able to look up a station by call sign and easily browse the broadcasters public file.
This form is part of CDBS.

Please note that all of the above systems are being consolidated into the Consolidated Licensing System (CLS).

- Equipment Authorization System/Telecommunications Certification Body (EAS/TCB)** – These client-server, Intranet and Internet systems capture, store, track and automate all workflow activities associated with the processes performed by the U.S. government for the approval, tracking and acceptance of applications initiated by the public for all equipment that is targeted for RF spectrum usage. The TCB application allows private firms to perform the equipment authorization while the OET oversees this via records retention and compliance audits. The electronic file application on the internet accommodates the public's filing of Grantee Codes, FCC ID numbers, form 731's and all related measurement and test result data. These systems interface with an FCC front-end system to pay.gov, allowing filers to pay for their applications online. On-line searching allows applicants to: check the status of Applications for Equipment Authorization, perform extensive searches of authorized equipment, view application and grant information on authorized equipment, display a list of Test Firms that perform work for the public, search for frequently-asked rule interpretation issues and search for a particular Grantee. Several web sites also exist for TCBs, TCB Accreditors, TCB Designators, Accrediting Bodies and Test Firms to register/renew with the FCC, submit compliance reports and correspond with the OET technical staff..The EAS/TCB application uses a server-based platform rooted in PowerBuilder 10.5, Oracle WebLogic 10.3 Java/JEE, J2EE/JSP/servlets/EJB, Sybase Open Client, Jakarta Struts, C/C++, Java-based Web Services, Jconnect/JDBC, HTML, JavaScript, CSS, Perl, Dreamweaver 8, AJAX, XML/XSLT, iPlanet, Cold Fusion 8 for J2EE, Adobe Professional, VuePro, Microsoft Office, UNIX Shell, Microsoft Project, Microsoft Access, Google Search Appliance, Eclipse, PVCS Tracker/Version Manager and HP Open Test.
- OET Frequency Assignment Coordination System (OFACS)** – OFACS is an application that is a staging house used to submit, store, update, and exchange information with the NTIA and other participating agencies. The system provides a centralized database and system to store and process Frequency Assignment Systems (FAS) records received from various licensing bureaus (LBO) before sending them to the NTIA and FAA for coordination. Features include the capability to query/call up records, report on, and track the status of frequency assignment coordination. The records returned from the NTIA are first updated in the system and an appropriate authority within the LBO. The system provides a common interface and acts as a facilitator between the LBO and the NTIA, and facilitates technical review of requests both from the public and from other government agencies that are received from NTIA. Coordination records received from the LBOs can be loaded into the system either through web user interface (UI) or web services. The loaded records go through a rule engine for validation, verification and data manipulation based on pre-defined business rules. These business rules reside outside the application which makes it easy to maintain. Some of the other important features offered by the system are (1) flexible reporting and search capabilities (2) role based security which is easily configurable through UI (3) flexible work assignment through UI (4) automated

email based notification. OFACS is not available to the public. OFACS was created using Sybase/Sybase stored procedures, BEA WebLogic, Java/J2EE, JCONNECT/JDBC, Java Script, HTML, Adobe Acrobat, iBatis, Xfire, Log4j, Struts, Quartz, AJAX, XML and Microsoft Office.

The following systems are candidates for potential integration into the Consolidated Licensing System (CLS):

- **WTB/PSHSB Legacy Databases** – Databases retained for a minimal number of internal users for research purposes. All legacy databases have been replaced by ULS. These databases include: ALMAPS, Amateur, ASR, ASR Viewer, Aviation, CCB Land Mobile (CLM), Cellular, FRC, Marine, Microwave, PCS, Review List, Tower Radio, TowPub and BLS. The databases were built using PowerBuilder and Sybase.
- **Canadian CoChannel Serial Coordination System (COSER)** – The Canadian CoChannel Serial Coordination System (CoSer) coordinates between Industry Canada and the FCC to ensure that proposed establishment of broadcasting/telecommunications along the US/Canadian border does not compromise either existing facilities and does not cause harmful interference to existing stations. This system is composed of two sub-systems, a Northbound system (which receives requests from ULS for notifications from the US to Canada) and a Southbound system (for notifications from Canada to the US). The system is not available to the public. Technological characteristics of the COSER include a server based platform and the use of PowerBuilder 10.5.1, C code, UNIX scripts and Sybase Stored Procedures.
- **Commission Registration System (CORES)** – Any organization, business, or person who wishes to conduct business with the FCC must first register using the FCC's Commission Registration System (CORES). Upon registration, the FCC customer is assigned a unique ten (10) digit FCC registration number (FRN). This unique number is used to identify an FCC customer doing business transactions with the FCC. An FRN is required by all Commission web applications that handle financial, authorization of service and/or enforcement activities. CORES contains one sub-system called CORES – Debarment, which allows Debarment System Administrators, Revenue Receivables Operation Group (RROG) Administrators, the Revenue Receivables Operation Group (RROG), and Bureaus and Offices to view data matches between the DOJ debarment file and CORES. This system is in the process of being redesigned. System enhancements for this project will redesign FRN assignment enabling tracking of licenses for parent companies. Technological characteristics of the CORES system include BEA WebLogic, Java (J2EE), JavaScript, Hibernate, Actuate and HTML on a server-based platform rooted Java/J2EE and Sybase.
- **OET Knowledge Database and Inquiry Processing System (KDB)** – The OET Knowledge Database and Inquiry Processing System is an internet and intranet

application that allows electronic submission and processing of technical and non-technical inquiries by the public and industry to the OET Lab. The site is designed to provide the public a means to research answers to Equipment Authorization questions. The KDB Search accepts a text string as input and performs an "OR" Boolean search. The Detail Criteria Search performs an "AND" Boolean search. These inquiries are automatically routed via email to the correct Subject Matter Expert (SME) based on the content of the inquiry and via e-mail notification. An internal processing module allows internal staff to collaborate and determine the resolution. The resolutions are then e-mailed to the inquirer. A publication component allows the OET to review the responses and determines whether they should be published to the public as a rule interpretation or a Frequency Asked Question (FAQ). Those inquiries flagged for publication are assigned to designated staff for formatting and publication on the internet. The KDB also consists of a Lab Help Coordination Module (LHC) used by designated staff to ensure inquiries are being answered in a correct and timely manner. On-line full-text search options allow the internal staff and the public to search the knowledge database for answers to frequency asked questions and rule interpretations. Management reporting is also provided by this application. The inquiry response and publication modules include features such as spell checking and user-driven HTML formatting. KDB also uses Sybase/Sybase stored procedures, BEA WebLogic, Java/J2EE, JCONNECT/JDBC, Java Script, HTML, ColdFusion, XML, iPlanet, Acrobat, AJAX, Microsoft Office and UNIX.

- **Annual Cable Rate Survey - Form 333** – The Annual Cable Rate Survey system was designed to respond to a Congressional mandate to track samplings of cable service rates within the U.S. The system provides data from which an annual report is published and provided to Congress. Each year between 500 and 850 filings/surveys are completed. Technologies used to create Form 333 include Sun Solaris, Sybase 12.5 and ColdFusion.
- **Broadband Data Collection (Form 477)** – Form 477 is a ColdFusion Web interface form that allows Broadband, Wired and Wireless local telephone, mobile telephony and interconnected VoIP providers to submit required filing data to the FCC. Data obtained from this form is used to determine the deployment of broadband infrastructure and competition to provide local telecommunications services. Form 477 is based on OMB approved form - OMB NO: 3060-0816 - format. (1) Form 477 has a ColdFusion front end with a Sybase 12.5 database back end. (2) There are two ways to collect Census Tract data. For smaller broadband providers, a simple type-in front end is used. For larger providers, the FCC allows file submission in xml format. (3)The reporting and analysis pieces are done using SAS. The data from Form 477 Sybase database is exported to SAS through a Sybase to SAS migration software.
- **The following systems in the Licensing Portfolio were developed in Microsoft Access. Plans include a conversion to Oracle or other systems or platforms.**

MS Access System Name	Acronym	Bureau/Office
Violations Entry/Reporting		OET

- **Additional COTS/GOTS systems in the Licensing Portfolio receive minimal support or auxiliary support under this SOW:**

Full System Name	Acronym	Bureau/Office
Statistical Analysis Software	SAS	WCB

Tracking Portfolio

- **Legislative Management Tracking System (LMTS)** – The Legislative Management Tracking System (LMTS) stores, distributes and tracks correspondence from Members of Congress and the White House. LMTS provides the FCC’s Office of Legislative Affairs (OLA) with an accurate and timely method of receiving, logging, responding to, tracking, cross-referencing and storing correspondence concerning:

- Constituent concerns and complaints
- Inquiries regarding Commission rules and policy
- Testimony by the Chairman and Commission Bureau/Office Chiefs

Documents are entered on a daily basis as they come in to the FCC. Users route the records to one another and attach draft responses. Output is through display and print of correspondence and attachments (draft responses) and summary reports on request.

Maintenance normally involves problem resolution with an average of 5-10 E-mails or calls per week. LMTS is a J2EE compliant system. Technologies used to create and maintain LMTS include Sun Solaris 2.6, Sun Java Studio, Sybase 12.5, Business Objects and J2EE 1.5.

- **Legislative Management Tracking System (LMTS) - Legislative Contact Module** – The Legislative Contact Module is a temporary solution to implement a mechanism in which the FCC Chairman can store information about Congressional phone calls, meetings, and personal contacts, with a tickler to help ensure follow through on any promises made. This system uses the eCLAS front end with a shared LMTS backend. The Legislative Contact Module uses the eCLAS system for the initial login because of the J2EE front end that is familiar to 8th floor and Business Objects users, a “tickler” email system that can be expanded as needed, a data security model that can provide data segregation if required or can be opened up for collaboration data. The LMTS data is linked to the items in eCLAS that are reported as “counts” to Congress. The Legislative

Contact Module was created using J2EE, BEA WebLogic 9.1, Sybase 12.5, and JBoss 3.2.3/4.0.

- **Customer Complaint Management System - CCMS** is an enterprise system designed to manage and track consumer inquiries and complaints from inception to its final disposition. In the current state, the Consumer and Governmental Affairs Bureau (CGB) staff are able to review and process complaints. Complaints referred to the Enforcement Bureau (EB) are immediately made available to EB users in both the application interface and via an enterprise reporting tool (Business Objects). In this manner, complaints are centrally stored and managed, which allows reporting of various metrics. The next iteration of the complaint system will be a module of the Enforcement Bureau Activity Tracking System (EBATS). CCMS will ultimately be expanded to include additional Bureaus/Offices.
- **Enforcement Bureau Activity Tracking System - EBATS** is a follow on subsystem of CCMS in development. It is a database currently under development that will include complaints, initiatives and cases being worked by the Enforcement Bureau (EB). EBATS will facilitate electronic delivery and metrics, along with enhanced work management, oversight, and workflow tools that enable more efficient management of cases.
- **Customer Information Management System (CIMS)** – The Customer Information Management System (CIMS) is a consumer complaint system that provides imaging and workflow application built on the Remedy Action Request System. The system works in conjunction with the Consumer Complaint Management System (CCMS). It is a tool for managing inquiries and complaints from the public regarding situations the FCC oversees. The users of the CIMS application are Consumer Advocacy Mitigation Specialists (CAMS). Inputs to the CIMS system vary and include, but are not limited to, phone calls received by the FCC's national call center, emails received by the Commission into designated complaint inboxes, faxes received into designated fax numbers, postal mail complaints which are scanned and imported into the CIMS application database as well as complaints from internet forms 501 (slamming), 475 (general communications) and 475B (indecentcy). Phone complaints are entered by the CAMS using a web front end. Email is processed by an artificial intelligence e-mail management system called iPhrase that reads the specified e-mail fields and returns possible matching categories to CIMS. If the scores are at the appropriate level, the CIMS application automatically responds to the e-mail inquiry. Phone inquiries are entered into CIMS and the knowledge base is utilized when responding to consumers. Consumers also have the ability to use front-end web pages to submit Slamming complaints (Form 501). CIMS utilizes other components such as ascent scanning machines and software to capture images as

they are scanned; the images are saved on EiStream server which saves/retrieves digital images and outbound faxes; and the RightFax server which saves incoming faxes as digital images for subsequent processing. Slamming complaints are imported into CIMS. CIMS was created using SQL Server, Remedy Action Request System, Crystal Reports, Eistream and BizObjects. The FCC is currently evaluating alternative options to the Kodak Ascent Capture and Eistream Server components.

- **The Chairman's Lifecycle Agenda Tracking System (eCLAS)** – The Chairman's Lifecycle Agenda Tracking System (eCLAS) tracks and facilitates voting by the FCC Commissioners on proposed Commission decisions and other agenda items and provides a series of reports about the status of proposed or adopted decisions to the Chairman, Commissioners, Bureaus and Offices. eCLAS was created using Sun Solaris Sybase 12.5, PowerBuilder 8, CAST and J2EE and shares a common platform (BEA WebLogic Server) with EDOCS and E-MTS.
- **Cable Tracking System (CTS)** – The Cable Tracking System tracks is used to support the Media Bureau.(MB), excluding COALS. The system supports user input and queries and provides information management and reports for MB staff and managers. It consists of the Informal Complaints System, New Rates Cable forms, and Administrative tracking modules. The system was built using PowerBuilder and is accessed through a desktop icon. Input into the system is daily in the form of keyed documents and forms, however, input volume is currently much lower than in former years. Output is almost completely screen display of form or response to ad hoc queries, although there is some printing as well as requirements for periodically printed reports. There are approximately 15 – 20 users in two separate FCC divisions. Technologies to create and maintain CTS include Sybase 12.5, Sun Solaris and PowerBuilder 9.
- **Electronic Comment Filing System (ECFS)** – The Electronic Comment Filing System (ECFS) provides access to comments and comment indexing information pertaining to Commission proceedings, rules, and docketing for browsing and download filed in FCC rulemakings and docketed proceedings, via the internet and Intranet. ECFS users send or "upload" files via a web browser. These are typically word-processing documents containing comments in reference to a specific FCC Docket or Rule making proceeding. Users can send comments in various file formats (spreadsheets, PDF, or text) via the internet or e-mail. A computer readable form in SGML format is submitted as part of e-mail filings. Filers may also send paper filing or "hard copy" instead, to be scanned, indexed and included in ECFS. All documents electronically filed or scanned are available for search, retrieval and printing from ECFS on the intranet and internet in PDF format. In some cases the size of a document or certain types of media (video, microfiche, diskettes, etc) submitted in the FCC Docket or Rule making proceeding are stored offline. ECFS's Web application was built using JAVA J2EE, Web 2.0, Spring, Hibernate, Sybase 12.5, and HTML. The email component was built using SGML, SendMail, UNIX 2.9 and shell programs.

- **Electronic Document Management System (EDOCS)** – The Electronic Document Management System (EDOCS) internet system designed to transmit documents from FCC Bureaus and Offices to the Office of Media Relations and the Secretary's Office for processing and release to the public; automates indexing and cataloging processes in the respective Offices, and produces the Daily Digest in a variety of forms. The Electronic Document Management System (EDOCS) allows for database search for FCC documents posted to the FCC web site since March 1996. EDOCS displays information about documents in three formats; full record, condensed record and citation. The full record displays all indexing information in the system for each retrieved document, the condensed format displays citations to the FCC records, FCC reports 2nd series and the Federal register. The database contains citations for documents posted since 1982. The EDOCS query works with any data elements or combination of data elements. The query searches for words in the Daily Digest title or in the description of each document and also words in the full text of each document using the Google Search Appliance. The EDOCS-Record Index module handles the FCC record preparation and it publishes the electronic FCC Record Index that is sent to GPO for public record. The EDOCS-FRS the Federal Register System allows users to submit a document summary to Office of the Secretary (OS) for approval/submission to GPO for publication. The FRS also handles electronic signature (ES) using Entrust software that interfaces with GPO ES server and services, which speeds-up the publication time and reduces tremendously the publication costs. Technologies used by EDOCS are Sun Solaris 9, HTML, JDBC/Jconnect, FTP, JavaScript, JAVA J2EE, Hibernate, Servlet (Testing), Send Mail, Sybase 12.5, XML and Entrust. EDOCS shares a common platform (BEA WebLogic Server) with eCLAS and E-MTS.
- **Expanded Management Tracking System (E-MTS)** – The Expanded Management Tracking System (E-MTS) records and tracks legal issues such as petitions and bankruptcy proceedings that may need coordination with the bureau chief and sign-off by the Chairman. The system was built using PowerBuilder GUI, Sybase (DB), in a UNIX Solaris environment. Users access the system through PowerBuilder applets, Query-By-Example (QBE), internet and the FCC Intranet. Input is keyed daily to forms and text-type fields on formatted screens. Output is daily, through on-line query responses, displayed and printed ad-hoc and preformatted reports, and periodic (weekly and monthly) summary reports. E-MTS, EDOCS and eCLAS share a common platform (BEA WebLogic Server). The EMTS-AITS module was built using JAVA J2EE and Sybase 12.5.
- **Electronic Tariff Filing System (ETFS)** – The Electronic Tariff Filing System (ETFS) is an internet-based system through which incumbent Local Exchange Carriers submit official tariffs and associated documents to the FCC in lieu of filing paper copies with the Secretary's Office. The Public may also use ETFS, via the internet, to view these documents or to file certain official tariff related documents. ETFS includes a Desktop PC based suite of PowerBuilder and Visual Basic applications which receives each incoming document, automatically scans

the file for viruses, detects the format of the incoming file, converts the file to PDF (if not already in PDF), then inserts the PDF file into the database. ETFS also has an Intranet-based system providing FCC staff with administrative reports and information as well as limited ability to edit and delete records. The FCC plans to rewrite ETFS in J2EE and there is a recent rulemaking which requires system changes. Technologies used to create and maintain ETFS include PowerBuilder 9, Web.SQL, Lotus Notes 123, Visual Basic, UNIX shell and Sybase 12.5.

- **Consumer Information Registry (CIR)** – The Consumer Information Registry (CIR) is a PowerBuilder application used by CGB staff to create topics (e.g., DTV, VoIP, etc.) that consumers can sign-up for/subscribe to via a password protected front-end HTML/ColdFusion web site that accesses a back-end Sybase database. As topics are updated, the information is sent via e-mail to subscribers. Information can be extracted to MS Excel. Technologies used to build CIR include HTML, ColdFusion, JavaScript, Sybase, PowerBuilder and MS Excel.
- **Domain Name** – Per FCC rules, wireless carriers are required to register their Domain Names. A front-end HTML/ColdFusion web site allows carriers to enter their Domain Name information into a back-end Sybase database. FCC staff use a PowerBuilder application to review/approve the submissions. Technologies used to create this application include HTML, XML, ColdFusion, JavaScript, Sybase and PowerBuilder.
- **Electioneering Communications Database (ECD)** – In 2004, pursuant to the Bipartisan Campaign Reform Act of 2002 (BCRA), the Media Bureau designed and implemented a publicly available Internet based system that performs analysis of CDBS data, cable and satellite subscriber data with respect to current Census Bureau population statistics for Congressional Districts and States and zip code data. The Electioneering Communications Database was created using Sybase, ColdFusion7 and ArcSDE.
- **Telecommunications Reporting Worksheet (Form 499)** – The Federal Communications Commission's rules state that all telecommunications carriers and interconnected voice over Internet protocol (VoIP) providers in the United States will contribute on a competitively neutral basis to meet the costs of establishing numbering administration, and directs that contributions shall be calculated and paid in accordance with the Telecommunications Reporting Worksheet (FCC Form 499). Technologies used to create Form 499 are: Sybase, ColdFusion and other technologies.
- **Video Programming Distributor Database** – The Video Programming Distributor's database gathers company contact information for closed captioning complaints. Information entered in this registry is posted on the FCC's website to assist consumers in reporting closed captioning problems or in filing complaints with Video Programming Distributors.

- **The following systems in the Tracking Portfolio were developed in Microsoft Access. Plans include a conversion to Oracle or other systems or platforms.**

MS Access System Name	Acronym	Bureau/Office
EB-TCD	EB-TCD	EB
EB-IHD	EB-IHD	EB
Enforcement Bureau MS Access Databases		EB
Field Activity Case Tracking System	FACTS-ATL	EB
Front Office Case Tracking System	FOCTS	EB
IB-eSAND	eSAND	IB
Import Declaration Evaluation And Analysis System	IDEAAS	EB
Investigations and Hearings Division SQL Import Database	CGB-IHD Import	EB
Markets Disputes Resolution Division Matters DB	MDRD Matters	EB
Markets Disputes Resolution Division Processing and Tracking System	MDRD-DB	EB
Notice of Apparent Liability System	NALS	EB
OIG - Law Enforcement Access Databases		OIG
Political Complaints		MB
Primary Contacts for Small Business		OCBO
Spectrum Enforcement Database	SED-DB	EB
TCD-DNS-PreRec Phase 4	TCD-BNA	EB
TCD-Junk Fax	TCD-Junk Fax	EB
Telecommunications Consumers Division - Customer Proprietary Network Information 2009	CPNI	EB
Telecommunications Consumers Division - Customer Proprietary Network Information 2010	CPNI-2010	EB
Telecommunications Consumers Division-Administrative Database	TCD-ADMIN	EB
Telecommunications Consumers Division-Billings, Names, and Addresses	TCD-BNA	EB
Telecommunications Consumers Division-Citation Database	TCD-CD	EB

- **Additional COTS/GOTS systems in the Tracking Portfolio receive minimal support or auxiliary support under this SOW:**

Full System Name	Acronym	Bureau/Office
Case Management System	CMS	EB
Consumer Information Management System (CIMS) – Ascent Capture		CGB
Concordance	CONC	EB
Documentum		OMD-ITC
Emergency Alert System/E-Team	E-Team	PSHSB
NFC Payroll/Personnel System, - STARS	STARS	OMD-HR
Remedy – CIMS Help Desk (HQ and GB)		CGB
TeamMate	TM	EB

** Tracking systems are currently under evaluation to identify consolidation opportunities.*

Administrative (Admin) Portfolio

- **Integrated Library System (ILS)** – The ILS is an enterprise resource planning system for the FCC Library. The ILS is designed to coordinate and automate library functions such as the online catalog, the circulation system, the serials system, and cataloging. The ILS was built using MS SQL Server 2000.
- **Continuity of Operation Plan - Disaster Recover Plan (PAMS -COOP/DRP)** – In accordance with Section 44 U.S.C. 3101 of the Privacy Act, PAMS is a personal information inventory that the FCC compiles of its employees in order to have access to contact information in the case of an emergency. PAMS is an emergency system that allows FCC management to assess staff safety and availability during a building or regional incident. PAMS data is also used to make COOP staffing decisions. The information supplied through PAMS serves two very important purposes. First, the FCC will know whom to contact in the case of any kind of emergency, be it medical or otherwise. Secondly, this information enables the FCC to contact an employee at home or another designated location if needed, to notify the employee whether an emergency requires that he or she come to work or not. Any information supplied by employees may be disclosed to emergency medical personnel or law enforcement officials should there be an emergency of any sort involving the FCC employee. Employees do not have to supply this information, and any information provided is completely voluntary. FCC requests this information along with periodic updates to keep any contact information current. The PAMS COOP/DRP was built using Sybase 12.5.1, Macromedia Dreamweaver MX2004, CAST Workbench 4.2 and HTML.

- **Transit Benefit and Parking (TB&P)** – The Transit Benefit and Parking (TB&P) system records and tracks financial data and reports on FCC allowances provided as benefits to FCC employees for public transit and parking. Users provide input and output to (1) track and distribute metrochecks and (2) collect checks and distribute parking permits. Monthly summary reports on employee status as well as daily individual reports to verify the information collected are produced. The TB&P system was created using Sybase, PowerBuilder 10.5, UNIX Scripts and Sybase stored procedures.
- **Labor Relations System (LRS)** – The LRS application is used to track labor relations cases and their disposition for Human Resources. The LRS database tracks all labor relations action items including assignment date, description of each assignment, action officer, due date and closed date (if closed), as well as, includes the reporting capabilities, such as, open action items, open grievances, open information requests, suggestions and closed. Technologies used to develop the system: MS Access.
- **The following systems in the Admin Portfolio were developed in Microsoft Access. Plans include a conversion to Oracle or other systems or platforms.**

MS Access System Name	Acronym	Bureau/Office
Audit Tracking (USAC) Database		OMD-CSP
Budget		CGB
Congressional Review Act (formerly Contract with America)	CRA	OMD-PERM
COOP Track		CGB
Electronic Strategic Analysis and Negotiations Division	IB-ESAND	IB
Federal Communications Commission Recreation Association	FCCRA	All
Field Activity Case Tracking System	FACTS	EB
Forms Accounting	FORMS	OMD-PERM
Freedom of Information Act	FOIA	OMD-PERM
Human Resources Management Download	HRMS	OMD-HR
Labor Relations System	LRS	OMD-HR
LMS_AUX Database	LMS_AUX	OMD-HR
On-Board		OMD-HR
Personnel Security Database		OMD-AO
Phonebook		OMD-ASC
Projects		CGB
Records Recall		OMD-PERM
508 Database		OMD-ITC
Subscriptions		OMD-OS

Waiver Tracking System		OMD-FO
In Development		
OMD Correspondence Tracking Database		OMD
Procurement and Contract Tracking		OMD

**Consultations from ITC are performed upon request. Only long-standing consultation projects are listed.*

- **Additional COTS/GOTS systems in the Admin Portfolio receive minimal support or auxiliary support under this SOW:**

Full System Name	Acronym	Bureau/Office
Cadapult Space Planning & Management		OMD-AO
Clarity		OMD-ITC
E-qip		OMD-AO
E2 Solutions	E2	OMD-FO
FCC University Learning Management System	FCCU/LMS	OMD-HR
CGI Momentum package (Genesis)	Genesis	OMD-FO
Legiant – Timecard 10.2		OMD-ITC
Quickhire		OMD-HR
Merant Tracker		OMD-ITC
Multi-Rater Assessment		OMD-HR
Remedy – Administration Service Center Tracking System	ASCT	OMD-AO
Remedy – ITC Help Desk Support (Remedy)	CRCT	OMD-ITC
Kronos Workforce Central V.5.1	KRONOS	OMD-AO

Other Programming Services

This work is an integral and important part of all system design under this SOW.

- **Web Functionality and Activities (WEB)** – FCC's information systems exist in an increasingly web-centric world that requires majority of the systems to have web-related functionality. This is true even for systems that are not a part of FCC.gov and for systems available only internally to the agency. This functionality ranges from browser and mobile interfaces for internal and external customer-facing components, browser-based administrative dashboards and controls, and system-to-system interfaces enabled through web-compatible services (e.g., REST, SOAP, RSS, etc.). For example, the Commission Registration System (CORES) provides a web interface for registration and

maintaining an FCC customer ID and the Electronic Document Management System (EDOCS) that transmits documents from FCC Bureaus and Offices to the Secretary's Office also publishes the documents so they are addressable and linkable on the web.

The WEB activities include the management and maintenance of existing Internet applications and the web-related functionality of FCC information systems identified in this document and specifically includes the ULS (includes ASR), Auction web presence, web usage logging and monitoring, DTV.gov as well as web components managed by or related to Wireless Telecommunications Bureau, Broadband.gov, and the Public Safety and Homeland Security Bureau.

The FCC.gov web presence (including various sub-domains) is composed of a variety of distinct applications and back-end services often running as independent systems. WEB activities include developing and maintaining specific applications and services, particularly business-facing applications and services, as requested by FCC according to agency wide design, information architecture, usability and interoperability specifications developed by FCC and FCC-designated parties including other vendors.

This work includes providing functionality of various systems where requested by the FCC available to mobile devices using Wireless Access Protocol (WAP) and appropriately optimized for mid-level e.g., BlackBerry, AndroidOS, SymbianOS, Windows CE/Mobile, Palm) and premium-level (e.g., iPhone, Palm Pre, Pre+) mobile devices including anti-spam mobile CAPTCHA systems. Work further includes customizing and integrating third party collaboration tools for crowd-sourcing and social media into web and mobile applications as requested by the FCC. Technologies used to support this work may include: WAP, WML, HTML5, jQuery, JavaScript, CSS, XHTML, XML, JSON, RESTful API web services, and telephony API. The activities also design for database projects, prototyping, and usability recommendations, acceptance testing and continuous system monitoring and notification.

The WEB work consists of delivering user experience-driven solutions. This includes employing research methods for user analyses, task analyses, content analyses, scenario development, usability testing, and stakeholder interviews. Documentation generated in support of this includes flow diagrams, user interaction models, wireframes, mock-ups, prototypes, functional specifications, design requirement documents, page layouts, navigation maps, and site maps for complex websites and web applications. This work shall support exemplary human factors or information architecture such as Section 508, content management systems, search engines, analytics, and usability testing. Technologies used for user experience-driven solutions include: HTML, XML, CSS, JavaScript, jQuery, MS Visio, Adobe Creative Suite including Dreamweaver and Photoshop.

- **Business Objects Center** – The FCC’s Business Objects center creates and manages universes for all systems in the Commission and serves as a center of expertise for Business Objects knowledge, consulting and advice for all systems.
- **Mapping Center** – The FCC’s mapping center establishes and manages geographic mapping services for all mapping in the Commission and integrating geographic mapping technologies into systems as required. Technologies used include ESRI and Google Maps.
- **Financial Reporting Support** – ITC supports FCC’s Financial Systems Operations Group in developing special reports using Actuate and other tasks associated with compiling financial data and reports from RAMIS and/or Genesis and other financial systems.
- **Single Sign-On Support** – Provide development and integration of applications with enterprise single sign-on architecture using J2EE, and SAML standards.
- **Form Support** – ITC provides support for the development, capture, analysis, maintenance, and reporting of various data collections. Typically data collection is performed through FCC Forms, such as Broadband Data Collection Form 477 and Telecommunications Reporting Worksheet Form 499.